altered blood coming from the hemorrhages so frequently associated with the pathologic conditions of the pancreas.

RÉSUMÉ.

Glycosuria as a symptom of pancreatic disease seems to be definitely associated with pathologic conditions in the islands of Langerhans, and is a development in many cases of the *later* periods of the disease. Processes involving the islands of Langerhans primarily do occur, and thus far no case has been reported in which such a process is not accompanied by glycosuria, although glycosuria *does* occur in cases in which the islands have been found unaffected at post mortem.

Steatorrhea is a symptom both of failure of the bile and of the pancreatic fluid. A failure of the bile to enter the intestine has a distinct influence in lessening the flow of pancreatic fluid on account of the stimulation which bile is to the activity of the pancreas. Further occlusions of the lower end of the common duct shut off the pancreatic fluid, and if bile is forced into the pancreatic duct in consequence, acute inflammatory disturbances may result in the gland. The steatorrhea of primary pancreatic disease in which there is a diminution or absence of pancreatic secretion is marked by an excessive increase in the neutral fats, reaching even 60 per cent of the total excretion, instead of the normal, of about 10 per cent to 15 per cent, and further by a striking diminution of fatty acids. With the steatorrhea is microscopic evidence of a failure of proteid digestion, shown by the finding of muscle fibers and casein coagula.

Fermentative and excessive putrefactive changes in the feces are evident to the eye and nose.

Indican is present in increased amount in the urine, as are also the ethereal sulphates.

The methylene blue test of Williamson may be used to determine a hyperglycemia in a suspected case of diabetic coma, when means of obtaining urine are not at hand. Bremer's test is less useful in the same condition.

Lipuria and lipemia are interesting, but not pathognomonic symptoms.

The presence of a fat-splitting ferment in the urine might be of extreme value in fixing a pancreatic connection to a glycosuria or to an acute disturbance in the epigastrium.

A CASE OF PANCREATIC CYST.*

By ELMER E. KELLY, M. D.

THE PANCREAS is an organ so deeply hidden away in the abdominal cavity and so hedged about with delicate anatomical structures that until recent years it has been considered a *terra incognito* by the abdominal surgeon. But with the advent of aseptic surgery the emboldened surgeon has explored every tissue and organ until no unknown quarter remains.

Even yet, however, there are organs and structures that have so rarely been removed or operated upon that every case deserves to be reported that the general store of knowledge may be increased and the statistical value of the various operations obtained. For this reason I have thought it worth while to make a record of the following case of pancreatic cyst:

G. W. C., aged 41, appeared at my office November 14, 1902, and from him I gleaned the following history:

Ten years ago the patient was suddenly attacked by excruciating pain in the epigastric region, accompanied by vomiting, after having eaten heartily of pork sausages. His physician thought the probable cause of the disturbance was due to the meat he had eaten.

The attack lasted thirty-six hours and by other physicians was diagnosed to be due to gall stones. There was no icterus and no lack of bile noticed in the patient's stools. An interval of six months passed before another attack, but three months later a third attack occurred and followed pretty much the same course as the previous ones, except that the patient lost flesh rapidly and became greatly debilitated. Four years after the initial attack he came to San Francisco and was treated for kidney disease, with marked improvement. Six months later he suffered a severe and more prolonged attack of pain, noticeable especially after eating. For the next twelve or fourteen months he was able to attend to his business, though he was not at all well. Then followed a series of severe though short attacks of pain which were only relieved by the use of morphine. At this time the malady was diagnosed as inflammation of the bowels and long shreds resembling mucous membrane were passed with the stools. Various plans of treatment were followed without material benefit. In 1898 he had a very severe attack lasting eleven days, during which, for the first time, he became deeply jaundiced, which continued for seven days. A large number of gall stones were passed in the stools, after which he was relieved of his pains. For one year he remained free from gastric pain and irritation.

Upon the 17th of August, 1902, he was again attacked by his old enemy, the jaundice reappeared, and after a few days of intense suffering, more gall stones were passed per rectum. The epigastric pains became more intense, radiating over the entire abdomen. Again the stools showed the presence of long shreds resembling mucous membrane, and his physician assured him that he was passing portions of the mucous lining of his bowels. Four weeks after the beginning of the attack he noticed his abdomen increasing in size, especially noticeable in the upper portion, in the epigastric region. This enlargement was accompanied by dyspepsia and inability to lie down flat in the bed. Pain invariably followed eating or drinking, and emaciation became quite marked, his weight being reduced from 210 to 138 pounds. Patient did not notice that one kind of food caused

* Read before the San Francisco County Medical Society, March 10, 1903.

more pain than another. The bowels were constipated at times and at others quite free.

Physical examination at the time of his first visit to me was as follows: Inspection showed marked emaciation; skin, a dark brownish, yellow hue; slight icteric suffusion of the conjunctivæ; muscles soft and flabby; no edema of the extremities. Pronounced dyspepsia upon exertion was present. The heart and lungs presented no abnormal physical signs. The abdomen showed a large rounded protuberance in the epigastric region, which pulsated synchronously with abdominal aorta. The enlargement upon palpation was firm and resistant, having the feeling of a very tense cyst, moving slightly with respiration.

The tumor was flat upon percussion, except slight resonance over the left side. The dullness in the middle line and towards the right side was continuous with the liver dullness, but not reaching as far outward as would have been expected if due to enlargement of that organ. Below the tumor tympanitic resonance was present. Examination of the urine was negative, except for a slight trace of albumen. The stools were light gray in color, containing bile and only slight evidence of undigested fat. The examination of the blood showed 60 per cent of hemoglobin and a slight leukocytosis. The patient was seen in consultation by Drs. Stillman, Frisbie and Dozier and a diagnosis of pancreatic cyst was made and operation advised.

Three days later, with the assistance of Drs. Frisbie and Dozier, the abdomen was opened in the median line. A large tumor presented, pushing before it the stomach and transverse colon. The peritoneum of the gastro-colic omentum was torn through and the edges stitched to the tumor. A trocar was thrust into the cyst and four quarts of greenish-colored, muddy fluid evacuated. The cyst also contained a large quantity of dark-colored detritus, with small particles of sandy substance, resembling softened gall stones. The cyst wall was attached to the abdominal peritoneum and drained by two large rubber drainage tubes. The cyst was explored to find if any large pancreatic calculi were present. It was found that the cyst involved the body and tail of the organ; the head was apparently not cystic, and we concluded that the head of the pancreas had a separate duct to convey its secretion to the intestine, and that this explained the absence of undigested fat in the patient's stools. The gall bladder being filled with concretions, a separate opening was made, the gall bladder stitched to the parietal peritoneum and a drainage tube inserted after evacuating the stones. Drainage was very free from both gall bladder and cyst cavity. The patient made an uninterrupted recovery, the gall bladder ceasing to drain in three weeks and the cyst finally closing about six weeks after the operation. The fluid was proven to be pancreatic fluid. Analysis of the contents of the cyst showed it to be purely a retention cyst of some considerable duration. I am of the opinion that the cyst was due to obstruction of the pancreatic duct by gall stones where it joins the common bile duct.

Interesting features of this case were those connected with the differential diagnosis. Its location limited the diagnosis of tumors of the stomach, lesser mentum, liver, pancreas or great vessels. Tumors of the stomach were excluded by the presence of resonance in front, above and toward the left side. From disease of the liver it was differentiated by the stomach resonance in front of the tumor, by the colon resonance on the right and the palpable edge of the liver and the very limited movement of the growth with respiration. Its central position precluded hydronephrosis, and the expansile pulsation of aneurysm was absent. Positive factors pointing to the pancreas were the colicky pains in the gastric region, following ingestion of food or drink; the immobility of the tumor; the transmitted pulsation; its median position in the abdominal cavity; the evidence of faulty fat digestion, shown by the stools, and the rounded outline of the growth indicating some organ possessing a strong capsule expanded by hydrostatic pressure.

TREATMENT OF HYDROCELE BY EVERSION OF THE TUNICA VAGINALIS (LONGUET'S METHOD).*

By DUDLEY TAIT, M. D.

SOUND therapy is contingent upon precision in diagnosis. A judicious surgical intervention should be preceded by or lead to a positive knowledge of the pathologic conditions present. Hence, the rapid and well-nigh total abandonment, in all branches of surgery, of blind methods of treatment and their supplantation by open precedures. Hydrocele was one of the last ramparts to capitulate, leaving perhaps in its trail a few timid camp followers, inert slaves of habit.

In a former communication, presented November 26, 1900, to the California Academy of Medicine, I reviewed the so-called radical methods of treating hydrocele (injection, drainage and partial excision), showing the great frequency of recurrences and the numerous risks incurred in cases thus treated.

Treatment by the injection of irritating fluids with

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